Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. Cancelled.

2. (Currently Amended) The method of claim [1] 46, wherein the first device becomes a master device and the second device becomes a slave device for purposes of the established [~~session of~~] contention-free interval[s].

3. (Currently Amended) The method of claim 2,

wherein the contention-free transmission [~~traffic~~] comprises one or more down-stream frames transmitted by the master device to the slave device, [~~and~~]

wherein the contention free interval further comprises one or more up-stream frames transmitted by the slave device to the master device, and

wherein determining comprises:

polling by the master device of the slave device in the down-stream frames and receiving upstream frames from the slave in response thereto.

4. (Currently Amended) The method of claim 45 [~~1~~], wherein the first device and the second device each includes a MAC unit coupled to a host, further comprising:

responsive to a [~~the~~] connection control messages exchange, receiving a set connection message from a [~~the~~] host at the MAC unit, the set connection message including a connection number assigned to a connection between the first device and the second device, a master flag

for indicating if the first device is the master device and a control flag for indicating that master control is to be passed and the direction in which the master control is to be passed.

5. (Currently Amended) The method of claim 4, wherein each frame in the contention-free interval [~~traffic~~] includes a contention control indicator for indicating contention free status, a priority field including a priority of the frame, a connection number field for identifying the connection number received in the set connection message, as well as source and destination address fields.

6. (Original) The method of claim 5, wherein each frame includes frame control information observable by substantially all devices in the CSMA network, and wherein the contention control indicator and the priority are included in the frame control information.

7. (Currently Amended) The method of claim 5, wherein the first device becomes a master device and the second device becomes a slave device for purposes of the [~~established session of~~] contention-free interval[s], and wherein the contention-free transmission [~~traffic~~] includes a downstream frame from the master device and an upstream frame from the slave device.

8. (Original) The method of claim 7, wherein the downstream frame triggers transmission of an upstream frame from the slave if the connection number matches the connection number in the set connection message, the contention control indicator is set to indicate contention-free status, the priority field is set to a highest priority and the source address matches the address of the master device.

9. (Original) The method of claim 8, further comprising:

preventing transmission of an upstream frame following the downstream frame by setting the connection number to a number other than the assigned connection number.

10. (Original) The method of claim 9, further comprising:

sending another downstream frame following the downstream.

11. (Original) The method of claim 7, wherein the set connection message further includes a source address frame size specifying the size of the frame to be delivered, further comprising:

using a transmit timer based on the source address frame size to determine when a queued frame is to be transmitted when no frame is received by the master device from the slave device due to a failure of an upstream frame or downstream frame.

12. (Original) The method of claim 4, wherein the set connection message further includes a transmit frame size specifying an average frame size, further comprising:

using the transmit frame size to determine the size of a dummy frame to be transmitted when transmission of a frame is to occur and a frame is not queued for transmission.

13. (Currently Amended) The method of claim 4, wherein the first device becomes a slave device and the second device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and the contention-free interval [~~traffic~~] includes a downstream frame by the master device and an upstream frame by the slave device, and wherein the set connection message further includes a lifetime timer value for indicating when a queued frame is to be discarded when the downstream frame has not been received from the master device.

14. (Currently Amended) The method of claim 4, wherein the first device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and wherein the method further comprises passing master control from the master device to the second device when the master flag and the control flag are set.

15. (Currently Amended) The method of claim 4, wherein the second device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and the method further comprises receiving master control from the master device when the master flag and the control flag are set.

16. (Currently Amended) The method of claim 5, wherein the first device becomes a slave device for purposes of the established [~~session of~~] contention-free interval[~~s~~] and wherein the connection control messages indicate that the slave device is to transmit the last frame in the contention-free interval, and wherein the method further comprises,

responsive to the exchange and triggered to transmit by a downstream frame, transmitting an upstream frame with the contention control indicator having a value for indicating that the contention-free interval is terminated.

17. (Currently Amended) The method of claim 45 [~~1~~], wherein the medium is a power line.

18. (Original) The method of claim 14, wherein the master device and the second device to whom the master control is passed have different network encryption keys and wherein passing comprises: passing the master control in an unencrypted downstream frame during one of the contention-free intervals.

19. (Currently Amended) The method of claim 45 [~~1~~], wherein the first device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and the method further comprises exchanging messages between the first device and a third device in a different logical network for arranging to pass control of the interval [~~session~~] to the third device in the different logical network.

20. (Original) The method of claim 45 [~~1~~], wherein frames in the contention-free interval [~~traffic~~] include frame control information that is heard by other devices and a payload that is not likely to be heard by the other devices.

21. (Original) The method of claim 20, wherein the frame control information includes a channel map index associated with channel map information to be applied to the payload for decoding and demodulation.

22. Cancelled.

23. (Currently Amended) The computer program of claim 49 [~~22~~], wherein the first device becomes a master device and the second device becomes a slave device for purposes of the established [~~session of~~] contention-free interval[~~s~~].

24. (Currently Amended) The computer program of claim 23, wherein the contention-free transmission [~~traffic~~] comprises one or more down-stream frames transmitted by the master device to the slave device, [~~and~~]

wherein the contention free interval further comprises one or more up-stream frames transmitted by the slave device to the master device, and wherein determining comprises:

polling by the master device of the slave device in the down-stream frames and receiving upstream frames from the slave in response thereto.

25. (Currently Amended) The computer program of claim 48 [~~22~~], wherein the first device and the second device each includes a MAC unit coupled to a host, further comprising:

responsive to a [~~the~~] connection control messages exchange, receiving a set connection message from a [~~the~~] host at the MAC unit, the set connection message including a connection number assigned to a connection between the first device and the second device, a master flag

for indicating if the first device is the master device and a control flag for indicating that master control is to be passed and the direction in which the master control is to be passed.

26. (Currently Amended) The computer program of claim 25, wherein each frame in the contention-free interval [~~traffic~~] includes a contention control indicator for indicating contention free status, a priority field including a priority of the frame, a connection number field for identifying the connection number received in the set connection message, as well as source and destination address fields.

27. (Original) The computer program of claim 26, wherein each frame includes frame control information observable by substantially all devices in the CSMA network, and wherein the contention control indicator and the priority are included in the frame control information.

28. (Currently Amended) The computer program of claim 26, wherein the first device becomes a master device and the second device becomes a slave device for purposes of the [~~established session of~~] contention-free interval[~~s~~], and wherein the contention-free transmission [~~traffic~~] includes a downstream frame from the master device and an upstream frame from the slave device.

29. (Original) The computer program of claim 28, wherein the downstream frame triggers transmission of an upstream frame from the slave if the connection number matches the connection number in the set connection message, the contention control indicator is set to indicate contention-free status, the priority field is set to a highest priority and the source address matches the address of the master device.

30. (Original) The computer program of claim 29, further comprising:

preventing transmission of an upstream frame following the downstream frame by setting the connection number to a number other than the assigned connection number.

31. (Original) The computer program of claim 30, further comprising:

sending another downstream frame following the downstream.

32. (Original) The computer program of claim 28, wherein the set connection message further includes a source address frame size specifying the size of the frame to be delivered, further comprising:

using a transmit timer based on the source address frame size to determine when a queued frame is to be transmitted when no frame is received by the master device from the slave device due to a failure of an upstream frame or downstream frame.

33. (Original) The computer program of claim 25, wherein the set connection message further includes a transmit frame size specifying an average frame size, further comprising:

using the transmit frame size to determine the size of a dummy frame to be transmitted when transmission of a frame is to occur and a frame is not queued for transmission.

34. (Currently Amended) The computer program of claim 25, wherein the first device becomes a slave device and the second device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and the contention-free interval [~~traffic~~] includes a downstream frame by the master device and an upstream frame by the slave device, and wherein the set connection message further includes a lifetime timer value for indicating when a queued frame is to be discarded when the downstream frame has not been received from the master device.

35. (Currently Amended) The computer program of claim 25, wherein the first device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and wherein the computer program further comprises instructions for passing master control from the master device to the second device when the master flag and the control flag are set.

36. (Currently Amended) The computer program of claim 25, wherein the second device becomes a master device for purposes of the established [~~session of~~] contention-free interval[s], and the computer program further comprises instructions for receiving master control from the master device when the master flag and the control flag are set.

37. (Currently Amended) The computer program of claim 26, wherein the first device becomes a slave device for purposes of the established [~~session of~~] contention-free interval[s] and wherein the connection control messages indicate that the slave device is to transmit the last frame in the contention-free interval, and wherein the computer program further comprises instructions for, responsive to the exchange and triggered to transmit by a downstream frame, transmitting an upstream frame with the contention control indicator having a value for indicating that the contention-free interval is terminated.

38. (Currently Amended) The computer program of claim 48 [~~22~~], wherein the medium is a power line.

39. (Original) The computer program of claim 35, wherein the master device and the second device to whom the master control is passed have different network encryption keys and wherein passing comprises: passing the master control in an unencrypted downstream frame during one of the contention-free intervals.

40. (Currently Amended) The computer program of claim 48 [~~22~~], wherein the first device becomes a master device for purposes of the established [~~session of~~] contention-free interval[~~s~~], and the computer program further comprises instructions for exchanging messages between the first device and a third device in a different logical network for arranging to pass control of the interval [~~session~~] to the third device in the different logical network.

41. (Currently Amended) The computer program of claim 48 [~~22~~], wherein frames in the contention-free interval [~~traffic~~] include frame control information that is heard by other devices and a payload that is not likely to be heard by the other devices.

42. (Original) The computer program of claim 41, wherein the frame control information includes a channel map index associated with channel map information to be applied to the payload for decoding and demodulation.

43. (Original) The method of claim 45 [~~1~~] wherein the plurality of devices represent less than all of the devices communicating over the medium.

44. (Original) The computer program of claim 48 [~~22~~] wherein the plurality of devices represent less than all of the devices communicating over the medium.

45. (New) A method of operating in a CSMA network in which a plurality of peer devices communicate over a medium, comprising:

having a first device, which can be any of the plurality of peer devices, transmit messages to at least a second device, which can be any other of the plurality of peer devices, over the medium using a CSMA contention-oriented service to establish a contention-free interval within the CSMA contention-oriented service for use by the first device for a contention-free transmission between the first device and at least the second device, and

wherein at least some of the other peer devices are made aware of the contention-free interval and refrain from contending during the interval.

46. (New) The method of claim 45 wherein the method further comprises having the first device determine when transmissions can occur on the medium during the contention-free interval.

47. (New) The method of claim 45, wherein each frame in the contention-free interval includes a contention control indicator, for indicating contention free status, and a priority field including a priority of the frame.

48. (New) A computer program residing on a computer-readable medium for operating in a CSMA network in which a plurality of peer devices communicate over a medium, the computer program comprising instructions for:

having a first device, which can be any of the plurality of peer devices, transmit messages to at least a second device, which can be any other of the plurality of peer devices, over the medium using a CSMA contention-oriented service to establish a contention-free interval within the CSMA contention-oriented service for use by the first device for a contention-free transmission between the first device and at least a second device, and

wherein at least some of the other peer devices are made aware of the contention-free interval and refrain from contending during the interval.

49. (New) The method of claim 48 wherein the method further comprises having the first device determine when transmissions can occur on the medium during the contention-free interval.

50. (New) The method of claim 48, wherein each frame in the contention-free interval includes a contention control indicator, for indicating contention free status, and a priority field including a priority of the frame.